**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
MIDLAND/ODESSA DIVISION**

INTELLECTUAL VENTURES I LLC and INTELLECTUAL VENTURES II LLC,	§ § §	
Plaintiffs,	§ § §	**Civil Action No. 7:24-cv-00277-ADA**
v.	§ §	**JURY TRIAL DEMANDED**
SOUTHWEST AIRLINES CO.,	§ § §	
Defendant.	§ §	

**DEFENDANT SOUTHWEST AIRLINES CO.'S
RULE 12(b)(6) MOTION TO DISMISS**

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I.   INTRODUCTION

Plaintiffs' First Amended Complaint (Dkt#52) ("Complaint") fails to state a claim for relief and should be dismissed under Rule 12(b)(6) for three independent reasons:

First, Plaintiffs assert several patents issued pre-*Alice* that claim abstract ideas—such as applying longstanding scheduling techniques to process routine tasks, outsourcing the hosting and monitoring of computer clusters, and organizing and storing information—implemented using generic, conventional computer and networking technology. The patents fail to disclose any technological innovations that improve upon the prior art in a concrete, non-abstract way. Under 35 U.S.C. § 101 and *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208 (2014), the patent claims in Counts I, VI, IX, and XI are invalid as a matter of law and should be dismissed.

Second, although Plaintiffs seek presuit damages, the Complaint does not plead compliance with 35 U.S.C. § 287's marking requirement, which is a prerequisite to recovering presuit damages. Accordingly, any claim for presuit damages should be dismissed.

Third, the Complaint fails to identify any specific Southwest products or services alleged to infringe the asserted patents. For example, it broadly references various third-party software tools—such as Docker, Kubernetes, Kafka, Spark, and Hadoop—and asserts that any Southwest "system or service" using these tools infringes. Yet the Complaint itself acknowledges that many providers of these software tools (as well as upstream equipment manufacturers for in-flight Wi-Fi systems) are licensed under the asserted patents, and Plaintiffs are aware that Southwest uses licensed vendors. By sweeping broadly while disregarding these licenses, Plaintiffs fail to plausibly allege any unlicensed or unauthorized use, and the Complaint's vague and conclusory allegations do not provide Southwest with the fair notice required by *Bell Atl. v. Twombly*, 550 U.S. 544, 556 (2007), and *Ashcroft v. Iqbal*, 556 U.S. 662, 685 (2009).

For these reasons, the Court should dismiss Plaintiffs' claims under Rule 12(b)(6).

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II.   ARGUMENTS

A. Invalidity Under 35 U.S.C § 101 and *Alice*

Under the two-step test in *Alice,* a patent claim is ineligible under § 101 if (1) it is "directed to" a patent-ineligible concept, such as an abstract idea, and (2) it lacks any "inventive concept" sufficient to transform the abstract idea into a patent-eligible application. 573 U.S. at 217–18; *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1166–67 (Fed. Cir. 2018). Although patent eligibility can turn on underlying facts, it remains a question of law and may be resolved on a Rule 12(b)(6) motion. *InvestPic*, 898 F.3d at 1166; *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1365 (Fed. Cir. 2018).

The claims at issue here apply abstract ideas using generic computing hardware and software, without any new algorithm, configuration, or technological improvement. These claims recite broad, functional results implemented on standard systems—without providing specific, inventive technological solutions, such as improved hardware, data structures, algorithms, or other technical advancements. Dismissal is proper because the patents themselves admit the underlying technologies used to implement the abstract ideas—first-come/first-served scheduling of tasks, outsourced hosting of computer clusters, and root-leaf storage—were well-understood, routine, and conventional by the time of the purported inventions.

1. U.S. Patent No. 7,257,582 on First-Come/First-Serve Processing

The '582 Patent in Count VI, titled *Method for Managing Distributed Processing of Tasks in a Network*, purports to address the challenge of processing large input files using subtasks distributed across multiple processors. It claims a method in which an input file is automatically partitioned, the partitions are distributed to subtask processors, and the processors execute subtasks on a first-come/first-served (FIFO) basis—rather than assigning tasks based on precomputed load information—to balance processing loads dynamically. *See* '582 Patent at 1:6–20, 3:35–47.

Claim 1, charted as representative, recites in relevant part:

    1.   A method of effecting on a preexisting input file a computer-executable process comprised of a plurality of subtasks, the method comprising the steps of:

    (a) automatically determining file allocation and logically subdividing records of said input file into a plurality of partitions;

    (b) distributing descriptions of all of said partitions to each of a plurality of subtask processors;

    (c) **simultaneously executing … subtasks** in each of at least some of said processors on a respective partition …;

    (d) thereafter **repeating step (c)** in at least some of the subtask processors each with another unprocessed partition *on a first-come/first-served basis*; and

    (e) generating at least one output combining all of the subtask outputs and reflecting the processing of all of said subtasks.

The patent specification acknowledges that most claimed steps—partitioning data (step a), distributing tasks (step b), parallel processing (step c), and aggregating results (step e)—were conventional techniques in distributed computing at the time. *See* '582 Patent at 3:35–47, 3:67–4:15, 4:59–63. For example, partitioning relies on conventional approaches like byte ranges or track addresses; distributing partitions uses standard control files; subtasks perform routine read-process-write operations; and aggregating outputs is a well-known merging step. *Id.*

To overcome prior art rejections, the patentee specifically argued during prosecution that the claimed first-come/first-served scheduling (step d) was the "primary difference" over the prior art. *See* Ex. C, Mar. 2, 2007 Remarks. The applicant contrasted the conceptual difference between the claimed invention and prior art load-balancing algorithms using a four-way stop analogy:

> With the instant invention ... load information is not created .... Instead, the load sharing is done as a byproduct of the fact that *the load-sharing process take parts of the load on a first-come/first-served basis*. A comparison would be to a road intersection where, according to the prior art, there is a traffic light that determines who can go when. ***The instant invention is more like such an intersection with a four-way stop so that the individual drivers determine who can go and when.***

This admission underscores the patent's ineligibility under § 101. First, it identifies the "focus of the claimed advance over the prior art," which defines what the claims are "directed to" under

Alice step 1. *See Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257–58 (Fed. Cir. 2016) ("The 'abstract idea' step … calls upon us to look at the 'focus of the claimed advance over the prior art.'"). Second, by likening the "instant invention" to organizing traffic flow at an intersection, the applicant acknowledged that the claimed invention merely implements a conventional human method of managing queues—and applies it to computers.

The '582 Patent claims an abstract concept using generic hardware, such as processors and memory, which are standard in distributed systems. The claims use simple functional language to describe desired outcomes—partitioning, distributing, processing, scheduling, and aggregating— without detailing *how* these operations are performed or improved.

a. Claim 1 Is Directed to an Abstract Queue Management Technique.

At step 1 of the *Alice* analysis, courts examine the claims in view of their language, the specification, and, if relevant, the prosecution history. *CardioNet, LLC v. InfoBionic, Inc.*, 955 F.3d 1358, 1372, 1374 (Fed. Cir. 2020). The focus is on the "claimed advance over the prior art." *Affinity Labs*, 838 F.3d at 1257. To be patent eligible, the claims must improve "the functionality of the computer or network platform itself." *Customedia Techs., LLC v. Dish Network Corp.*, 951 F.3d 1359, 1364 (Fed. Cir. 2020). Simply invoking a computer as a tool to implement an abstract idea is not sufficient. *See BSG Tech. L.L.C. v. Buyseasons, Inc.*, 899 F.3d 1281, 1287–88 (Fed. Cir. 2018).

Claim 1 of the '582 Patent is directed to the abstract idea of dividing a large task into subtasks and assigning processing resources to perform those subtasks on a first-come/first-served basis. The claimed steps embody a fundamental approach to task management: breaking a large job into discrete parts, assigning initial tasks to workers, and instructing them to request additional work when finished—practices employed by humans since the building of the pyramids in Egypt. Such processes grounded in organizational and management practices are abstract. *See Intell. Ventures*

I LLC v. Capital One Bank (USA), 792 F.3d 1363, 1367 (Fed. Cir. 2015) (organizing, storing, and retrieving information held abstract).

"[T]here is a critical difference between patenting a particular concrete solution to a problem and attempting to patent the abstract idea of a solution to the problem in general." *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1356 (Fed. Cir. 2016). Claim 1 falls into the latter category. It does not improve computer technology or solve a specific technical problem. Instead, it applies a conventional and commonsense workload management idea to distributed computing using steps the specification itself admits were well-known and routine. The specification admits that partitioning data, distributing tasks, processing in parallel, and aggregating results were all standard operations in distributed systems. *See* '582 Patent at 3:35–4:15, 4:59–63.

The supposed advance—first-come/first-served scheduling—illustrates the abstract nature of the claims. The applicant's own prosecution remarks compare it to a simple four-way stop, underscoring its roots in longstanding human queue management. Claim 1 merely applies this principle to distributed computer processing without disclosing any new technological innovation. The claim's abstract functional language—like "logically subdividing," "distributing," and "aggregating"—describes desired outcomes without specifying *how* these steps are performed. This is just like *Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC*, where the Federal Circuit held that reciting a series of steps to achieve a desired result, without specifying *how* those steps are performed, renders the claim abstract. 874 F.3d 1329, 1337–38 (Fed. Cir. 2017) ("routing" and "accumulating records" held abstract and invalid).

Claim 1 does not recite any unconventional methods for data partitioning, distribution of subtasks, or aggregation of results. *See* '582 Patent at 3:35–4:15, 4:59–63. This high-level, results-oriented drafting underscores the claim's abstract nature. As *Elec. Power* explains, claims

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focused on outcomes of data processing without concrete means to achieve them are abstract and invalid. 830 F.3d at 1356. Because claim 1 is directed to a fundamental method of organizing and processing tasks without reciting a technological improvement, it is ineligible under *Alice* step 1.

b. Claim 1 Lacks an Inventive Concept.

To transform an abstract idea into patent-eligible subject matter, a claim must include an "inventive concept"—something "significantly more" than the abstract idea itself. *Alice*, 573 U.S. at 217–18. Well-understood, routine, and conventional techniques do not qualify. *BSG Tech.*, 899 F.3d at 1290–91. Nor does computer implementation of an abstract idea supply an inventive concept if "carried out in existing computers long in use." *Alice*, 573 U.S. at 222.

As to *Alice* step 2, claim 1 of the '582 Patent recites only conventional steps and generic components without introducing any meaningful technical improvements or innovations. The claim elements, individually and in combination, reflect routine operations in distributed computing, as explicitly acknowledged in the specification. Partitioning input data into subsets, distributing tasks to processors, and processing tasks in parallel were standard techniques for optimizing workload distribution at the time. '582 Patent at 3:35–4:15, 4:59–63.

The first-come/first-served scheduling, likewise, is a well-established method for processing tasks based on availability, like the applicant's example of the four-way stop sign. Claim 1 of the '582 Patent "merely applies [this] well-known idea using generic computers." *Intell. Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1314 (Fed. Cir. 2016). The specification does not describe any modification, improvement, or adaptation of this scheduling technique to make it unique or unconventional in the context of distributed computing. The claim simply applies this known concept predictably to allocate unprocessed subtasks, offering no specific mechanisms or technical enhancements. Thus, claim 1 is "directed to a result or effect that itself is the abstract idea and merely invoke[s] generic processes and machinery" rather than "a specific means or method that

improves the relevant technology." *Yu v. Apple Inc.*, 1 F.4th 1040, 1043 (Fed. Cir. 2021). "What is claimed is simply a generic environment in which to carry out the abstract idea." *Id.*

Confirming the routine nature of the claimed methods, both the specification and claim 1 rely entirely on conventional computing components, such as processors, memory, and standard network architecture. '582 Patent at 4:27–36; *Trinity Info Media, LLC v. Covalent, Inc.*, 72 F.4th 1355, 1364, 1366–67 (Fed. Cir. 2023) (generic "processors" and "memory" insufficient to add an inventive concept). The patent does not propose any novel configurations or functionalities for these components but instead recites conventional "functions in general terms, without limiting them to technical means for performing the functions that are arguably an advance over conventional computer and network technology." *Elec. Power*, 830 F.3d at 1351.

Claim 1's reliance on functional language—such as "automatically determining," "logically subdividing," "distributing," "executing," and "combining"—describes desired outcomes without specifying how those outcomes are achieved. For example, it does not explain how data is partitioned into subsets, how subtasks are allocated, how unallocated tasks are managed, or how results are aggregated into a final output. '582 Patent at claim 1, 3:47–4:15, 4:59–63. This lack of specificity leaves the claim framed at a high level of abstraction, with no concrete implementation details that could transform the method into a patent-eligible application. Claim 1 offers no technological advancements or inventive concepts beyond the abstract idea itself. Accordingly, because claim 1 fails the *Alice* test, Count VI should be dismissed.

2. U.S. Patent No. 8,352,584 on Outsourced Computer Clusters

The '584 Patent, titled *System for Hosting Customized Computing Clusters*, claims a system for hosting computing clusters for use by clients. The purported problem is a logistical challenge, not a technological one: while "multiple cluster systems" were already known and conventional,

they were "typically limited" because "clients are required to host and manage the clusters that are located on their site or in their facilities." '584 Patent at 4:60–5:2, 5:19–21.[1]

As its proposed solution, the patent describes outsourcing cluster management by providing a "hosted cluster system" located remotely from the client. *Id.* at 5:22–25. Clients can "access their hosted cluster from a remote location via … the Internet or other network," allowing them to offload the burden of on-site infrastructure. *Id.* at 4:25–27. The patent frames the invention as solving common problems associated with managing computer clusters by hosting computer clusters for clients using "a network for communications with a corresponding client and monitoring equipment and/or software modules." *Id.* at 4:53–58. It characterizes the system as one that provides clients with the "computational assets or power" they need "while not presenting an unacceptable burden on the clients' resources." *Id.* at 2:52–56.

The "present invention" is described as "hosting a plurality of clusters that are each configured for a particular task … and optionally providing for configuration, access control, and monitoring." *Id.* at 2:64–3:3. But the only distinction claimed over conventional clusters is location: the "cluster systems of the invention … are physically provided at one or more locations that are remote from the processing user or client's facilities." *Id.* at 4:19–23.

Claim 1, the only claim referenced or charted in the Complaint, recites a generic system architecture implementing this outsourcing model:

> 1.   A computer system, comprising:
> a private communications network linked to a public communications network;
> a first cluster … in a first configuration … linked to the private communications network;

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[1] The '584 Patent (Count IX) shares a specification with the '841 Patent (Count VIII). However, IV chose to assert the '841 Patent in a separate lawsuit, Case No. 7:25-cv-00252-ADA. Southwest has already filed a motion to dismiss on § 101 grounds in that other case. *See id.* at Dkt#9.

> a second cluster … in a second configuration … linked to the private communications network;
>
> a monitoring system …;

with additional limitations requiring communications isolation, defining clusters as "high performance," and linking each cluster through respective gateways.

The terms in claim 1 are defined broadly and generically. The specification makes clear that the invention extends to "any particular type of cluster or to particular hardware and/or software components." *Id.* at 10:22–25. The term "configuration" encompasses virtually every conventional aspect of cluster design, including "the physical components," "the topology of the cluster," and "any clustering software utilized to manage the cluster." *Id.* at 10:50–58.

Similarly, the "monitoring system" is described as relying on off-the-shelf tools such as the Intelligent Platform Management Interface (IPMI) and Simple Network Management Protocol (SNMP). *Id.* at 7:53–62. The patent does not disclose or claim any improvement to the clusters themselves, the computing resources, the network, or the monitoring systems; it merely assembles known components in a conventional arrangement.

a. Claim 1 Is Directed to a Business Idea.

Claim 1 of the '584 Patent is directed to the abstract idea of offloading computing tasks to remote clusters and monitoring them—a logistical or business goal, not a technological improvement. The supposed advance of hosting clusters remotely is framed in the patent as a solution to reduce clients' infrastructure costs, not a technical enhancement. '584 Patent at 1:39–43. Claim 1 recites only a system that receives a client task over a public network and executes it using remote clusters linked by conventional networking components.

The Federal Circuit has consistently held that "communicating requests to a remote server and receiving communications from that server" is an abstract idea. *Bridge and Post, Inc. v. Verizon*

Commc'ns, Inc., 778 F. App'x 882, 892 (Fed. Cir. 2019) (quoting *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 766–67 (Fed. Cir. 2019)); *see also BuySafe, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014) ("That a computer receives and sends information over a network … is not even arguably inventive."). Just like in *ChargePoint*, where adding network communications to known systems did not render the claims eligible, claim 1's functional recitation of "performing a client task," "monitoring operations," and "reporting the state of the cluster" merely describes abstract outcomes without concrete technological solutions.

Similarly, in *Two-Way Media*, the Federal Circuit held claims invalid where they recited functional results—"converting," "routing," and "monitoring"—without any technological implementation, because the claims simply relied on a generic network architecture performing routine tasks. 874 F.3d at 1337–38. The '584 Patent's claim 1 is no different: it describes using standard hardware to execute client tasks over a network without any improvement to the functionality of the clusters or networks themselves.

The generic monitoring elements of the claim likewise fail to impart eligibility. Claim 1's monitoring system simply checks for problems and reports them using conventional tools like SNMP and IPMI—off-the-shelf technologies that the patent admits are standard. '584 Patent at 7:53–62. This is akin to *InvestPic*, where the Federal Circuit found that claims focused on collecting, analyzing, and reporting information using standard computers were abstract and lacked any technological improvement. 898 F.3d at 1167–68. Because claim 1 does not improve how computers or networks function, but instead recites a generic use of existing systems to carry out an abstract hosting and monitoring scheme, it fails *Alice* step 1.

b. Claim 1 Lacks an Inventive Concept.

Claim 1 of the '584 Patent also fails *Alice* step 2 because it uses only generic computer components to perform conventional functions. The specification confirms that all components of

claim 1 are standard. The system includes a "public communications network,"[2] a "private

communications network," two computing clusters, and a monitoring system. But none of these

elements are novel or unconventional. The "clusters" are conventional computing clusters made

up of processing nodes, shared storage, and standard networking.

The monitoring system fares no better. It consists of two main components implemented using

existing, off-the-shelf technologies: the IPMI and SNMP—both longstanding, conventional tools

for monitoring system health. '584 Patent at 7:53–62. Their inclusion confirms the absence of any

technological advance. The use of such "off-the-shelf, conventional computer, network, and

display technology" cannot confer patent eligibility. *Elec. Power Grp.*, 830 F.3d at 1355; *see also*

Two-Way Media, 874 F.3d at 1339 (invalidating claims relying on "conventional computer and

network components operating according to their ordinary functions."). Claim 1 fails *Alice* step 2

because it merely uses standard clusters and networks to perform ordinary hosting and monitoring

tasks.

The '584 Patent does not identify any non-conventional arrangement of these elements. It

claims a routine setup in which two generic clusters are linked to an intranet, receive tasks from a

public network, and use standard monitoring tools. That configuration reflects a typical managed

data center architecture—not an inventive concept.

In addition, claim 1 does not recite any inventive combination of elements. Although an

inventive concept can sometimes arise from a "non-conventional and non-generic arrangement of

known, conventional pieces," *Bascom Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d

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[2] The "public communications network" is generally understood by the specification to mean the
Internet. *E.g.*, '584 Patent at 3:8–10, 4:23–27. In contrast, the "private communications network"
is a typical intranet using established protocols such as "Gigabit Ethernet," "10 Gigabit Ethernet,"
"Infiniband™," or "Myrinet™." '584 Patent at 7:41–52.

1341, 1350 (Fed. Cir. 2016), the ordered combination here is conventional: computing clusters communicating over standard networks, monitored using known tools. This mirrors the type of generic implementation the Federal Circuit repeatedly finds ineligible.

As in *Elec. Power*, the claims "do not require any non-conventional and non-generic arrangement of known, conventional pieces," and merely perform generic functions on standard computer components. 830 F.3d at 1355. *ChargePoint* confirms the same principle: adding generic networking to existing systems does not impart inventiveness. 920 F.3d at 774–75. Claim 1 does not improve how clusters, networks, or monitoring systems function; it simply applies conventional tools in their ordinary roles to achieve abstract results without any "improvement to the functioning of the computer itself." *Alice*, 573 U.S. at 225.

Because claim 1 lacks any inventive concept, it fails both steps of the Alice inquiry and is not directed to patent-eligible subject matter. Count IX should therefore be dismissed.

3.   U.S. Patent Nos. 8,332,844 and 7,721,282 on Root-Leaf Storage

The '844 and '282 Patents in Counts I and XI share a common specification lineage and focus on the concept of distributed application environments. The '282 Patent, titled *Block-Level I/O Subsystem for Distributed Computing Environment Management*, was filed first and describes a system in which read-only "root images" are merged with per-node "leaf images" using a "union block device" to deploy computing environments across multiple nodes. The '844 Patent, titled *Root Image Caching and Indexing for Block-Level Distributed Application Management*, is a continuation-in-part of the '282 Patent and extends the shared specification by introducing caching and indexing mechanisms to optimize the deployment of distributed environments.

Both patents depend on underlying techniques that were admittedly well-understood, routine, and conventional practices at the time of filing. For example, clustered computing and distributed file systems were established technologies. *See* '282 Patent at 1:21–35; '844 Patent at 1:31–45.

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Root-leaf storage methods were commonly used to create boot images "on the fly." *See* '282 Patent at 1:62–2:6; '844 Patent at 2:14–25. And caching mechanisms, including least-recently-used (LRU) algorithms, were known in the art. *See* '844 Patent at 6:38–7:17.

The '282 Patent claims a system for organizing and storing information, with claim 1 charted as representative for Count XI (Dkt#52-24). Claim 1 recites, in relevant part:

> 1. A system for distributing an application environment comprising:
>
> a compute node comprising a computer system;
>
> a first storage unit for storing blocks of **a root image** …;
>
> a second storage unit for storing **a leaf image** …; and
>
> a union block device for interfacing between the compute node and the first and second storage units … wherein **the union block device creates the application environment by merging** the blocks of the root image stored on the first storage unit with the blocks of the leaf image stored on the second storage unit ….

The '844 Patent claims methods for organizing and storing information, with claim 7 charted as representative for Count I (Dkt#52-8). Claim 7 recites, in relevant part:

> 7. A method for providing data to a plurality of compute nodes, comprising:
>
> storing blocks of **a root image** of said compute nodes on a first storage unit;
>
> storing **leaf images** for respective compute nodes on respective second storage units…; and
>
> **caching blocks of said root image** that have been accessed by at least one of said compute nodes in a cache memory.

Both patents rely on generic computer hardware and software implementations, as shown in Figure 1 of each patent, which depict general-purpose computing devices with standard storage media. *See* '282 Patent at 4:11–40; '844 Patent at 4:27–56. Components such as "Union Block Devices" (UBDs) are described merely as low-level drivers without any disclosed novel functionality. *See* '282 Patent at 4:41–45; '844 Patent at 5:19–64. The claims are drafted in broad functional language—"providing," "distributing," "storing," "interfacing," and "caching"—without specifying any improved algorithms, hardware, or software. In sum, the claims reflect the

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conventional practice of storing one type of data (a "root image") in a first location, storing another type of data (a "leaf image") in a second location, and utilizing standard hardware and routine techniques to merge or cache the data.

The prosecution history of the '282 Patent underscores the abstract nature of the claims. On July 8, 2009, the examiner rejected original claims 1–33 under § 101, explaining the system was "an abstract idea" that failed to disclose how it would "process and carry out its intended results." *See* Ex. A at 4–5. The applicant overcame the rejection by amending the claims to recite generic hardware components, such as the "first storage unit," "second storage unit," and "union block device." *See* Ex. B at 1. While the amendments satisfied the examiner's objection at the time, modern § 101 precedent makes clear that merely adding conventional hardware does not transform an abstract idea into a patent-eligible invention. *See, e.g., Alice*, 573 U.S. at 223–24.

a.   Claims 1 and 7 Are Directed to Organizing and Storing Information.

Claim 1 of the '282 Patent and claim 7 of the '844 Patent both recite the abstract concept of organizing and storing information in a root-leaf structure: keeping a master "root image" shared across compute nodes, maintaining individualized "leaf images" for per-node changes, and (for the '844 Patent) caching frequently accessed blocks. These steps mirror basic data collection and organization practices analogous to longstanding human conduct—*e.g.*, keeping a central record and local edits—without any technical innovation. *See Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1146 (Fed. Cir. 2016) (organizing information is an abstract idea); *Intell. Ventures I LLC v. Erie Indem. Co.*, 850 F.3d 1315, 1327 (Fed. Cir. 2017) (same); *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016) ("*TLI*") (claim related to creating and storing data images based on "classification" of the data); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014) ("The concept of data collection, recognition, and storage is undisputedly well-known.").

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Claim 1 recites broad steps—storing root and leaf images and merging them using a generic "union block device"—without any specific algorithm, circuit, or new file-system structure. *See* '282 Patent at claim 1; *see also ChargePoint*, 920 F.3d 769 (claims using functional language to describe results without specific technological means are abstract). The patent itself concedes these concepts were conventional: cluster computing and distributed file systems were established technologies; root-leaf boot images were common; and caching algorithms like LRU were routine. *See* '282 Patent at 1:21–35, 1:62–2:6; '844 Patent at 1:31–45, 2:14–25, 6:38–7:17.

Claim 7 of the '844 Patent merely adds caching blocks already accessed—another routine function the specification admits was standard. *See* '844 Patent at 6:38–7:17; *Erie Indem.*, 850 F.3d at 1327 ("organizing and accessing data includes longstanding conduct that existed well before the advent of computers"). Simply storing data in a hierarchy, caching it, or recognizing and organizing information are classic examples of abstract ideas. *See Content Extraction*, 776 F.3d at 1347; *Versata Software, Inc. v. NetBrain Techs., Inc.*, 2015 WL 5768938, at *7 (D. Del. Sept. 30, 2015) ("representing information in a hierarchy amounts to an abstract idea").

In the end, the claims resemble a traditional library system: the central card catalog serves as a shared, primary record (root); individual checkout cards track each book's borrower and status (leaf); and the return cart holds recently returned books awaiting reshelving (cache)—highlighting that these practices are longstanding techniques for organizing and storing information, not inventive technological solutions. Because the claims do not specify any concrete mechanism or technical advancement beyond these conventional organizational methods, they are directed to an abstract idea and fail *Alice* step 1.

b. Claims 1 and 7 Lack an Inventive Concept.

Claims 1 and 7 also fail *Alice* step 2 because they do not recite any "inventive concept" that could transform the abstract idea of organizing and storing information into a patent-eligible

application. *See Alice*, 573 U.S. at 217–18. Instead, the claims apply the abstract root-leaf storage idea using generic, conventional computing components.

The patents themselves concede that the claimed techniques—storing root images, maintaining leaf images for local changes, and caching frequently accessed blocks—were all well-known, conventional practices at the time of filing. *See* '282 Patent at 1:21–35, 1:62–2:6 (cluster computing, distributed file systems, root-leaf boot images); '844 Patent at 1:31–45, 2:14–25, 6:38–7:17 (caching). These admissions confirm that the claims use generic computing hardware and software without any new algorithms, configurations, or technological improvements. *Symantec*, 838 F.3d at 1315 ("claims use generic computers to perform generic computer functions").

The claims themselves underscore their conventional nature, reciting only high-level functional steps—"providing," "distributing," "storing," "interfacing," and "caching"—without specifying any inventive implementation for these tasks. *See BSG Tech.*, 899 F.3d at 1290–91 ("If a claim's only 'inventive concept' is the application of an abstract idea using conventional and well-understood techniques, the claim has not been transformed into a patent-eligible application of an abstract idea"). Components like the "union block device" are described in the specification as low-level drivers performing routine merging of data blocks, not any technological advance. *See* '282 Patent at 4:41–45; '844 Patent at 5:19–64.

Courts have invalidated similar claims applying conventional computing elements to abstract goals. *See, e.g.*, *Content Extraction*, 776 F.3d at 1348 (holding claims for data extraction and storage invalid because they relied on routine computing hardware and techniques). Claims 1 and 7 fall squarely in this category, merely combining conventional elements to perform abstract data organization and caching without any innovative improvement.

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The prosecution history of the '282 Patent reinforces the absence of a non-abstract inventive concept. The examiner initially rejected the claims as abstract, and the applicant overcame that rejection solely by adding generic hardware references, such as "first storage unit," "second storage unit," and "union block device." *See* Ex. A at 4–5; Ex. B at 1. But under modern § 101 precedent, "the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention." *Alice*, 573 U.S. at 223–24.

In the end, the claims merely require storing one type of data (a "root image") in one place, another type of data (a "leaf image") in a second place, and using standard hardware and known techniques to merge or cache them. They provide no inventive concept. Because claims 1 and 7 fail both steps of the *Alice* inquiry, Counts I and XI should be dismissed.

B. Presuit Damages Are Not Available

To recover damages for alleged infringement occurring before the filing of a complaint, a patentee must comply with the patent marking statute, 35 U.S.C. § 287(a). "The patentee bears the burden of pleading and proving he complied with § 287." *Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1366 (Fed. Cir. 2017) ("*Arctic Cat I*"). This burden extends to the acts of licensees—a patentee must plead that it "made reasonable efforts to ensure compliance with the marking requirements by its licensees." *Arctic Cat I*, 876 F.3d at 1366; *see also Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 950 F.3d 860, 864 (Fed. Cir. 2020) ("A patentee's licensees must also comply with § 287.").

When a patentee does not plead compliance with § 287, courts may dismiss any claim for pre-suit damages under Rule 12(b)(6). *See, e.g., Lans v. Digital Equip. Corp.*, 252 F.3d 1320, 1328–29 (Fed. Cir. 2001); *e-Watch Inc. v. Avigilon Corp.*, 2013 WL 5231521, at *3 (S.D. Tex. Sept. 13, 2013) ("The Federal Circuit specifically allows addressing the § 287(a) issue through a motion to dismiss."). IV first notified Southwest of alleged infringement of the '844, '722, '785, '326, '469,

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and '582 Patents with the filing of the Complaint (Dkt#1) and the notice letter sent with it (Dkt#1-7) on November 1, 2024, and of the '080, '841, '584, '000, and '282 Patents with its Motion for Leave to File Amended Complaint (Dkt#37) on May 23, 2025. Neither Plaintiffs' Original nor Amended Complaint alleges compliance with the marking statute. *See* Dkt#1, Dkt#52. This forecloses any claims for pre-suit damages under § 287 and *Arctic Cat*. The Court should dismiss Plaintiffs' claims for damages for past infringement.[3]

C. No Infringing Uses Are Alleged

A complaint must "place the alleged infringer 'on notice of what activity … is being accused of infringement.'" *Bot M8 LLC v. Sony Corp. of Am.*, 4 F.4th 1342, 1352 (Fed. Cir. 2021). "There must be some allegation of specific services or products of the [accused infringer] which are being accused." *Addiction & Detox. Inst. L.L.C. v. Carpenter*, 620 F. App'x 934, 937 (Fed. Cir. 2015).

Here, the Complaint alleges that Southwest infringes by offering unspecified "services and technologies" that use the third-party software programs Kubernetes, Kafka, Docker, Spark, and Hadoop. *See, e.g.*, Dkt#52 ¶ 25. It asserts that these programs practice the '844, '722, '785, '584, '080, '282, and '582 Patents (Counts I–III, VI–VII, IX, and XI) but never identifies any specific Southwest product, system, or service accused of infringement. Instead, it defines "Accused Products and Services" broadly as any "products, services, and technologies" Southwest "makes, utilizes, services, tests, distributes, sells, offers, and/or offers for sale in the State of Texas and the Western District of Texas." Dkt#52 ¶ 7.

The Complaint then compounds this ambiguity by accusing not only unspecified systems but also "all past, current, and future systems and services" that "operate in the same or substantially

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[3] *See* Dkt#52 at 56 ¶ D (requesting relief, including "[a] judgment that awards Plaintiff all appropriate damages under 35 U.S.C. § 284 for Defendant's *past infringement*").

similar manner" or "have the same or substantially similar features." *See, e.g.*, Dkt#52-8 at 2. It

further states these are only nonlimiting examples. *E.g.*, Dkt#52 ¶ 49. Such sweeping allegations

fail to give Southwest notice of what conduct is actually accused.

Like the deficient pleadings in *Carpenter* and *WirelessWerx IP LLC v. OnStar, LLC*, 2024 WL

1607018, at *9–10 (E.D. Mich. Apr. 12, 2024), the Complaint includes "bare allegations" that

Southwest infringes merely because it uses common third-party software, without identifying any

Southwest-specific implementation or feature alleged to infringe. This is exactly the sort of

speculative pleading insufficient under Rule 8. *See Carpenter*, 620 F. App'x at 937; *Artrip v. Ball

Corp.*, 735 F. App'x 708, 714–15 (Fed. Cir. 2018) (finding conclusory allegations insufficient

where complaint could encompass virtually all aspects of defendant's operations).

Moreover, the Complaint's allegations of infringement are rendered implausible by its own

admissions that upstream suppliers of the accused software or cloud services are licensed under

the asserted patents—yet the Complaint fails to specify which providers are licensed and which

are not. *E.g.*, Dkt#52-8 at 2 n.1. This acknowledgment makes Plaintiffs' infringement theory

speculative at best because it relies on the assumption that Southwest's use somehow falls outside

of licensed activity without any supporting factual allegations. "The inclusion of [the phrase 'on

information and belief'] creates an inference that [Plaintiffs] likely lack[] knowledge of the

underlying facts to support the assertion[s], and [are] instead engaging in speculation to an undue

degree." *Celgard, LLC v. Shenzhen Senior Tech. Material Co.*, 2020 WL 7392909, at *5 (W.D.N.C.

Dec. 17, 2020). Because Plaintiffs admit that third-party providers of the accused technologies

may be licensed, Plaintiffs' failure to identify which uses are unlicensed underscores the

implausibility of their infringement claims. *See Radar Indus., Inc. v. Cleveland Die & Mfg. Co.*,

424 F. App'x 931, 933 (Fed. Cir. 2011) ("An express or implied license is a defense to

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infringement."); *JVC Kenwood Corp. v. Nero, Inc.*, 797 F.3d 1039, 1045 (Fed. Cir. 2015) ("without specific allegations and evidence showing use of unlicensed optical discs, Nero has established a complete defense to all of JVC's allegations of infringement under the Patents.").[4] Plaintiffs' statement that they "will provide relevant license agreements . . . in discovery" underscores that they cannot meet their burden to plausibly plead infringement before proceeding to litigation. *See Twombly*, 550 U.S. at 556, 558 ("[A] district court must retain the power to insist upon some specificity in pleading before allowing a potentially massive factual controversy to proceed.").[5]

III.   CONCLUSION

For the foregoing reasons, each of Plaintiffs' claims in the First Amended Complaint is legally deficient. Several asserted patents recite abstract ideas implemented with conventional computer and networking technology. In addition, all claims fail to plead compliance with the marking statute necessary to recover pre-suit damages, and do not plausibly identify any specific infringing Southwest product or service. Accordingly, Defendant respectfully requests that the Court dismiss Plaintiffs' First Amended Complaint in its entirety under Rule 12(b)(6).

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[4] Because the Complaint's enhanced damages allegations rest entirely on these implausible direct infringement claims, dismissal of the direct infringement allegations necessarily requires dismissal of Plaintiffs' claims for enhanced damages as well. *See CTD Networks, LLC v. Google, LLC,* 688 F. Supp. 3d 490, 503 (W.D. Tex. 2023).

[5] To the extent Plaintiffs attempt to allege joint infringement, *see, e.g.,* Dkt#52 ¶ 49, these claims also fail. The Complaint does not identify any specific third parties allegedly performing steps of the claimed methods or allege facts showing Southwest directed or controlled any such parties, as required to state a plausible joint infringement claim. *See Lyda v. CBS Corp.,* 838 F.3d 1331, 1338–39 (Fed. Cir. 2016).

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of this document was filed and served to all counsel of record using the Court's CMECF system on July 9, 2025.

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/s/ S. Wallace Dunwoody
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